



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,429	03/30/2001	Sanjay K. Agrawal	CISCP539	9399
26541	7590	12/26/2006	EXAMINER	
Cindy S. Kaplan P.O. BOX 2448 SARATOGA, CA 95070			TANG, KAREN C	
			ART UNIT	PAPER NUMBER
			2151	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/26/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	09/823,429	AGRAWAL, SANJAY K.
Examiner	Art Unit	
Karen C. Tang	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 October 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4,7-9,11,14,19,20,22,23,25,27,29,31 and 33-47 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,4,7-9,11,14,19,20,22,23,25,27,29,31 and 33-47 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/24/06 has been entered.
- Claims 1, 4, 7, 8, 9, 11, 14, 19, 20, 22, 23, 25, 27, 29, 31, and 33-47 are presented for further examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19 and 22 are rejected under 35 U.S.C. 101 because "data signal embodied in a carrier wave" failing to fall within a statutory category (use for e.g., claims covering signals, waves, radiation, transmissions, link per se) and/or failing to be structurally and functionally interconnected with the software in such a manner to, in and of itself, enable any usefulness to be realized.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 6, 7, 8, 9, 11, 14, 15, 18, 19, 20, 22, 23, 24, 25, 27, 28, 29, 31, and 33-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al hereinafter Garcia (US 2002/0097726) in view of Varma et al hereinafter Varma (US 2002/0073224).

1. Referring Claims 1, 2, 9, 11, 14, 15, 20, 23, 24, 25, 27, 29 and 31, Garcia disclosed:
collecting traffic data at a queue of a router, said queue associated with the traffic aggregate over a time interval, the traffic data comprising packet size and arrival time of each packet arriving at the queue during the time interval (refer to 0016, 0054, 0066, and 0089);
calculating a burst parameter (σ , 0053) based on the traffic data collected at said queue and the associated rate (ρ , rate of the aggregate flow, 0089);
calculating a burst-rate traffic profile responsive to the traffic data collected at said queue over said time interval and the associated rate, wherein the associated rate is a specified bandwidth for the traffic aggregate (ρ , rate of the aggregate flow, refer to 0063); and
calculating a periodic worst-case delay for the burst-rate traffic profile by dividing the burst parameter by an allocated bandwidth associated with the queue (refer to 0063).
adding up the delay associated with the routers along the path (refer to 0063, where the sum of the τ is the sum of propagation delay of the links and the path associated with the routers).
at a router, there must be a processor to processing the calculation (refer to 0110)
Garcia did not expressly indicate the arrival time of the traffic data is being collected.

Varma disclosed the arrival time of the traffic data is being collected (time is being recorded at certain period, refer to 0067).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Garcia and Varma since arts are analogous.

The suggestion/motivation would have been that by providing the network parameters needed to determine the worst-case delay, it provides more stability and reliability of the current Internet architecture.

Garcia did not expressly indicate calculating a periodic worst-case delay for the burst-rate traffic profile by dividing the burst parameter by an allocated bandwidth associated with the queue.

Varma disclosed calculating a periodic worst-case delay for the burst-rate traffic profile by dividing the burst parameter by an allocated bandwidth associated with the queue (refer to 0015).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Garcia and Varma since arts are analogous.

The suggestion/motivation would have been that by providing the network parameters needed to determine the worst-case delay, it provides more stability and reliability of the current Internet architecture.

2. Refer to Claim 4, Garcia disclosed wherein the associated rate is negotiated rate agreed to by a customer sending the traffic data (refer to 0053).

3. Referring to Claim 7, Garcia discloses 7 wherein the queue is allotted a share of an output link capacity, said share exceeding the associated rate (refer to 0106 or 0057).

4. Referring to Claim 8, wherein the traffic aggregate is a class of traffic (refer to 0106).
5. Referring to Claims 19 and 22, Garcia discloses wherein the computer readable medium is a CD-ROM, floppy disk, flash memory, system memory hard drive, (queue is a storage, a memory, refer to 0110) or data signal embodied in a carrier wave.
6. Referring to Claim 37, Garcia disclosed wherein the associated rate is a maximum average bandwidth specified in a service level agreement (refer to 0053).
7. Referring to Claims 38 and 47, Garcia did not disclosed the profile where the y-intercept corresponding to a y-intercept corresponding to the calculated burst parameter and a slope corresponding to the associated rate.
Varma disclosed where the y-intercept corresponding to a y-intercept corresponding to the calculated burst parameter and a slope corresponding to the associated rate (refer to 0013).
At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Garcia and Varma since arts are analogous.
The suggestion/motivation would have been that by providing the network parameters needed to determine the worst-case delay, it provides more stability and reliability of the current Internet architecture.

8. Referring to Claim 39, Garcia did not disclosed calculating a cumulative bandwidth profile having a slope equal to allocated bandwidth (Fig 18).

9. Referring to Claims 40 and 46, Garcia disclosed calculating error of data by comparing collected data to the burst-rate traffic profile (refer to 0089).

10. Referring to Claims 41, Garcia disclosed calculating a new burst parameter if the error of data is higher than a predetermined limit (refer to 0175).

11. Referring to Claim 42, Garcia disclosed disclosed wherein code that causes the processor to calculate the burst-rate traffic profile comprises code that causes the processor to utilize a token bucket (refer to 0053).

12. Referring to Claim 43, Garcia disclosed wherein the token bucket size corresponds to maximum burst rate (refer to 0053).

13. Referring to Claims 36 and 44, Garcia disclosed wherein the burst parameter is calculated utilizing token buckets and the associated rate is set to a negotiated rate for a specified class of traffic (refer to 0053 and 0068).

14. Referring to Claim 45, Garcia disclosed wherein the rate parameter is rate agreed to by a

15. Referring to Claim 33, Garcia disclosed wherein calculating the burst-rate traffic profile comprises utilizing a token bucket (refer to 0053).

16. Referring to Claim 34, Garcia disclosed wherein the token bucket size corresponds to a maximum burst rate (refer to 0053).

17. Referring to Claim 35, Garcia disclosed wherein a replenishment rate of the token bucket is based on the associated rate (refer to 0053).

Response to Arguments

Applicant's arguments with respect to claims 1, 4, 7, 8, 9, 11, 14, 19, 20, 22, 23, 25, 27, 29, 31, and 33-47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen C. Tang whose telephone number is (571)272-3116. The examiner can normally be reached on M-F 7 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571)272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karen Tang


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER